CLAIMS

1. A method of executing a neural network in a speech recognition system for recognizing speech of an input speech signal organized into a series of frames, the method providing evaluating a distance between non-consecutive frames and selectively skipping the run of the neural network in correspondence of at least one frame comprised between said non-consecutive frames, characterised in that said distance is calculated as a distance between output likelihoods of said neural network.

2. A method according to claim 1, characterised by the steps of:

a) buffering a plurality (N) of input frames;

b) defining an interval corresponding initially to a main interval of frames delimited by a first and a second non-consecutive buffered frames;

c) calculating, by means of said neural network, a first and a second likelihood corresponding to the frames delimiting said interval;

d) calculating a distance between said first and second likelihoods;

e) comparing said distance with a predetermined threshold value (S) and, in case said distance is lower than said threshold value (S), calculating by interpolation between said first and second likelihoods, the likelihood or likelihoods corresponding to the frame or frames comprised within said interval, or, in case said distance is greater than said threshold value (S), calculating, by means of said neural network, at least one likelihood corresponding to a frame comprised within said interval;

f) applying recursively said steps c) to e) to each interval present as a sub-interval within said main

interval, containing at least one frame whose likelihood has not been yet calculated, until all the likelihoods corresponding to the frames in said main interval have been calculated.

3. A method as claimed in claim 2, wherein said interpolation is a linear interpolation.

4. A method as claimed in claim 2, wherein said main interval of frames comprises said plurality (N) of buffered input frames.

5. A method as claimed in claim 2, wherein said likelihoods are probability distributions.

6. A method as claimed in claim 5, wherein said distance between said first and second likelihoods is calculated as a symmetric Kullback distance between probability distributions.

7. A method as claimed in claim 2, wherein said threshold value (S) is a fuzzy set.

8. A method as claimed in claim 7, wherein said fuzzy set has a domain corresponding to the percentage of output units of said neural network used by the current phonetic variability.

9. A method as claimed in claim 8, wherein said fuzzy set is a linear segmented decreasing function.

10. A computer program comprising computer program code means adapted to perform all the steps of any of claims 1 to 9 when said program is run on a computer.

11. A computer program as claimed in claim 10 embodied on a computer readable medium.

12. A speech recognition system for recognizing speech of an input speech signal, according to the method of any of claims 1 to 9, the system comprising a neural network for

calculating likelihoods corresponding to frames of said input speech signal, characterising in that it comprises:

a buffer for storing a plurality (N) of input frames;

a distance evaluation unit for calculating a distance between a first and a second likelihood, said first and second likelihoods being obtained by means of said neural network and corresponding to a first and a second non-consecutive buffered frames;

a comparing unit for comparing said distance with a predetermined threshold value (S);

an interpolation unit for calculating, in case said distance is lower than said threshold value (S), the likelihood or likelihoods corresponding to the frame or frames comprised between said first and second non-consecutive buffered frames.

13. A speech recognition system according to claim 12, wherein said buffer is a lookahead buffer.